Smart Grid Testing & Certification Committee (SGTCC)

Work Group 5: Lab Qualifications

SGIP Test and Certification Committee: Work Group 5: Qualification Criteria for Testing Laboratories and Certification Bodies

Introduction:

In the context of Smart Grid Interoperability and Cyber Security, conformity assessment is intended to provide confidence that a product, when integrated and operated in the Grid, will function as expected under specific conditions. This Manual specifies criteria applicable to parties performing Smart Grid Interoperability and Cyber Security product testing and certification.

This Manual recognizes that different relationships between 1st, 2nd and 3rd party activities may be permitted by a product procurement, integration or regulatory party. These relationships are summarized as:

1st party – the seller or supplier of the product

2nd party – the buyer or integrator of the product

3rd party – independent party with no financial interest in the product

This Manual considers that:

Testing might be a 1st, 2nd or 3rd party activity.

A 1st or 2nd party might issue a declaration of conformity.

Certification is a 3rd party activity.

This Manual does not specify whether or when specific combinations of testing and declaration or certification parties must be involved in interoperability assessment. Market forces and regulatory requirements will typically define the relevance and interactions between these parties.

Since 2nd party testing and 1st party declarations are typically contractual arrangements between suppliers and buyers, these are beyond the scope of this Manual. This manual is intended to address 1st and 3rd party testing laboratories, and 3rd party certification bodies.

The requirements specified in this Manual are advisory unless implemented or referenced in regulations.

1 Scope:

1.1 This Manual specifies the criteria for testing laboratories (1st and 3rd party) and certification bodies (3rd party) performing product conformity assessment regarding Smart Grid Interoperability and Cyber Security with respect to open communication standards and specifications.

1.2 This Manual is intended for use by the following stakeholders:

a. Certification Bodies

b. Testing laboratories

c. Accreditation bodies

d. Standards Setting Organizations (SSO's)

e. Interoperability Testing and Certification Authorities (ITCA's)

f. Product Vendors

1.3 This Manual may also be of interest to other stakeholders with responsibility for regulatory oversight, product procurement or system integration, such as:

a. Public Utility Commissions

b. Authorities Having Jurisdiction (AHJ's)

c. Service Providers

2. References:

Undated references refer to the most recent publication.

ISO 17000 - Conformity assessment -- Vocabulary and general principles

ISO 17011 - Conformity assessment -- General requirements for accreditation bodies accrediting conformity assessment bodies

ISO 17025 - General requirements for the competence of testing and calibration laboratories

ISO Guide 65 - General requirements for bodies operating product certification systems

NFPA 1600 - Standard on Disaster/Emergency Management and Business Continuity Programs

3. Definitions:

1st party testing laboratory – laboratory owned or operated by the person or organization responsible for the product (adapted from ISO 17000)

3rd party testing laboratory – laboratory that is independent of the person or organization responsible for the product, and of user interests in that product (adapted from ISO 17000)

3rd party certification body - body operating a product certification system where the body is independent of the person or organization responsible for the product, and of user interest in that product (adapted from ISO 17000 and ISO Guide 65)

Certification program - certification system related to specified products, to which the same specified requirements, specific rules and procedures apply (adapted from ISO 17000)

Certification Body - a body operating a product certification system ("product" is used in its widest sense and includes processes and services) (derived from ISO Guide 65 Scope)

Accreditation body - authoritative body that performs accreditation (ISO 17011)

Standards Setting Organizations (SSO's) - organizations and groups – formal or informal – that develop standards, specifications, user requirements, guidelines, and the like; including standards-developing organizations that develop standards through an accredited process (NIST Special Publication 1108)

Interoperability Testing and Certification Authority (ITCA) – Refer to the Interoperability Process Reference Manual (IPRM)

Authority Having Jurisdiction (AHJ) - An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure (NFPA 1600)

4. General Accreditation Requirements:

4.1 Testing Laboratory

4.1.1 Any test report intended to support a claim of Smart Grid Interoperability or Cyber Security shall be issued by a testing laboratory accredited to ISO 17025. The accreditation scope shall include the specific standards or specifications against which testing may be performed, and the requirements for accreditation shall include applicable requirements of Appendix A. Accreditation shall be by an accreditation body that is (a) a signatory, in good standing, to the International Laboratory Accreditation Cooperation (ILAC) mutual recognition arrangement; or (b) recognized under the (US) National Cooperation for Laboratory Accreditation (NACLA).

4.2 Certification Body

4.2.1 Any certification that a product or system is Smart Grid Interoperable or Cyber Secure shall be issued and maintained by a certification body accredited to ISO Guide 65. The accreditation scope shall include the International Classification for Standards (ICS) Codes[1] applicable to the technologies for which certification activities are performed, and the requirements for accreditation shall include applicable requirements of Appendix B. Accreditation shall be by an accreditation body that is signatory, in good standing, to the International Accreditation Forum (IAF) multilateral agreement for "Product."

[1] ICS codes are available at http://www.iso.org/iso/ics6-en.pdf

Examples of ICS codes:

33.040.40 Data communication networks
33.040.60 Powerline telecommunications
33.080 Integrated Services Digital Network (ISDN)
33.100.01 Electromagnetic compatibility in general
35.040 Character sets and information coding
35.100.01 Open systems interconnection in general
35.110 Networking

5. Transitional Requirements:

5.1 During the transition period between publication of this Manual and full implementation of the preceding “General Requirements” the following modifications may be applied. These transitional requirements will expire two years after publication of this Manual unless extended by the SGIP.

5.2 Testing Laboratory

5.2.1 Any test report intended to support a claim of Smart Grid Interoperability or Cyber Security shall be issued by a laboratory that can provide evidence of accreditation to ISO 17025 and declares competence to perform test activities related to the standard(s) or specification(s) stated in the test report. On subsequent assessment by the accrediting body in accordance with the “General Accreditation Requirements” the testing laboratory shall make available all test reports issued under these transitional requirements. Depending on the results of the formal assessment, the testing laboratory shall undertake appropriate corrective action.

5.3 Certification Body

5.3.1 Any certification that a product or system is Smart Grid Interoperable or Cyber Secure shall be issued and maintained by an organization that can provide evidence of accreditation to ISO Guide 65 and declares competence to perform certification activities related to the standard(s) or specification(s) stated in the certification. On subsequent assessment by the IAF signatory accreditor in accordance with the “General Accreditation Requirements” the certification body shall make available all certification documents and records generated under these transitional requirements. Depending on the results of the formal IAF signatory assessment, the certification body shall undertake appropriate corrective action.

Appendix A – Testing Laboratory Requirements Supplemental to ISO 17025

Note: numbered to correspond with ISO 17025 clauses

<TBD>

Appendix B –Certification Body Requirements Supplemental to ISO Guide 65

Note: numbered to correspond with ISO Guide 65 clauses

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